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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/570,831	02/05/2007	Kevin N. Taylor	007412.00104	8780

71867 7590 03/10/2011

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EXAMINER	
ZHOU, YONG	
ART UNIT	**PAPER NUMBER**
2477	

MAIL DATE	DELIVERY MODE
03/10/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/570,831	TAYLOR ET AL.	
	Examiner	Art Unit	
	YONG ZHOU	2477	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 February 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 4-8, 11-15 and 18-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over John T. Chapman (US 7,324,515 B1, hereinafter Chapman'515) in view of Menashe Shahar et al. (US 7,359,434 B2, hereinafter Shahar).

Regarding claim 1, Chapman'515 teaches an apparatus comprising:

a device configured to output a customer premises equipment (CPE) identifier (Fig. 1, #26, Fig. 3, #28, #54, #63, col. 3, lines 27-34, col. 4, line 54 through col. 5, line 10, where the cable modem (CM) is pre-configured to receive Ethernet data frames having well-known Ethernet addresses associated with multiple set top box (STB) client circuits; the well-known Ethernet addresses are configured (selected) by a STB user through the user interface of the STB and passed to the CM); and

a modem in communication with the device (Fig. 1, #26-28, Fig. 3, #28, #54, col. 3, lines 57-59, wherein the client station contains a set top box (STB) client and a cable modem (CM) in communication with the STB; the cable modem module sends the OOB message to an STB client), the modem receiving the CPE identifier and configured to scan downstream channels of an information distribution system for matching the well-

known Ethernet address associated with the client (Fig. 1, #12, #26-28, col. 3, lines 14-21, 27-34 and 56-67, wherein the cable modem (CM) is pre-configured to receive and scan the received Ethernet data frames having the well-known Ethernet addresses associated with multiple cable clients; the Ethernet data frames are received at the cable client station from a cable modem termination system (CMTS). If the well-known Ethernet address is detected, the cable modem proceeds with one-way initialization and sends the received messages to the STB), the modem tuning to one or more tunnels identified in the ID matching and delivering out-of-band (OOB) messages included in the tuned-to tunnels to the device (Fig. 3, #50, #54, #56, col. 4, lines 26-32 and 45-53, wherein the DOCSIS tuner in the cable modem tunes to a downstream channel and receives OOB messages identified by the well-known Ethernet address for sending to the STB client);

wherein the information distribution system is configured to output over a cable network out-of-band (OOB) messages over the one or more tunnels where each tunnel is identified with a network address (Fig. 1, #12-14, Fig. 2, col. 3, lines 1-34 and 41-46, wherein a proxy at the CMTS sends DOCSIS packets including out-of-band (OOB) messages to multiple cable clients over an Ethernet tunnel, associated with an IP address).

Chapman'515 does not expressly teach that the information distribution system is configured to output downstream channel descriptor (DCD) messages over a network `over downstream channels, wherein each DCD message identifies at least a portion of the network addresses associated with the one or more tunnels provided by the

information distribution system and includes a listing of tunnel types and a listing of tunnel type identifies for differentiating between different tunnels identified with a same tunnel type.

Shahar teaches that a wireless modem termination system (WMTS, a wireless hub) sends DCD messages to wireless modems (CPEs) over a network over downstream channels; the DCD message defines all downstream channels utilized by the WMTS (wireless hub), the DCD message includes a list of channel type and channel identifiers for downstream channels (Fig, 2, #100-114, col. 3, lines 17-21, col. 4, lines 62-65, col., 6, lines 45-62, Tables 3 & 6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine teachings from Shahar into the Chapman'515 invention to include DCD message over downstream channel for identifying downstream channels and differentiating data sent on different tunnels to modem clients.

Regarding claim 8, Chapman'515 teaches a system for Out-Of-Band (OOB) messaging, the system comprising:

an information distribution system, the information distribution system configured to output over a network, OOB messages over a network, the OOB messages being outputted over one or more one-way data tunnels where each data tunnel is identified with a network address (Fig. 1, #12-14, #26, Fig. 2, Fig. 3, #28, #54, #63, col. 3, lines 1-34 and 41-46, col. 4, line 54 through col. 5, line 10, wherein a proxy at a cable modem termination system (CMTS) sends DOCSIS packets including out-of-band (OOB)

messages to multiple cable clients over an Ethernet tunnel, associated with an IP address; the cable modem (CM) is pre-configured to receive Ethernet data frames having well-known Ethernet addresses associated with multiple set top box (STB) client circuits; the well-known Ethernet addresses are configured (selected) by a STB user through the user interface of the STB and passed to the CM);

Customer Premises Equipment (CPE) having a device configured to output a CPE identifier and a modem in communication with the device (Fig. 1, #26, Fig. 3, #28, #54, #63, col. 3, lines 27-34, col. 4, line 54 through col. 5, line 10, where the cable modem (CM) is pre-configured to receive Ethernet data frames having the well-known Ethernet addresses associated with multiple set top box (STB) client circuits; the well-known Ethernet addresses are selected by a STB user through the user interface of the STB and passed to the CM), the modem receiving the CPE identifier and configured to scan downstream channels of the information distribution system for matching the well-known Ethernet address associated with the client (Fig. 1, #12, #26-28, col. 3, lines 14-21, 27-34 and 56-67, wherein the cable modem (CM) is pre-configured to receive and scan the received Ethernet data frames having the well-known Ethernet addresses associated with multiple set top box (STB) client circuits; the Ethernet data frames are received at the cable client station from the CMTS. If the well-known Ethernet address is detected, the cable modem proceeds with one-way initialization and sends the received messages to the STB), the modem tuning to the tunnels identified in the ID matching and delivering the OOB messages included in the tuned-to tunnels to the device (Fig. 3, #50, #54, #56, col. 4, lines 26-32 and 45-53, wherein the DOCSIS tuner

in the cable modem tunes to a downstream channel and receives OOB messages identified by the well-known Ethernet address for sending to the STB client).

Chapman'515 does not expressly teach that the information distribution system is configured to output downstream channel descriptor (DCD) messages over a network over downstream channels, each DCD message identifying at least a portion of the network address associated with the one or more tunnels provided by the information distribution system, and also including a listing of tunnel types and a listing of tunnel type identifies for differentiating between different tunnels identified with a same tunnel type.

Shahar teaches that a wireless modem termination system (WMTS, a wireless hub) sends DCD messages to wireless modems (CPEs) over a network over downstream channels; the DCD message defines all downstream channels utilized by the WMTS (wireless hub), the DCD message includes a list of channel type and channel identifiers for downstream channels (Fig, 2, #100-114, col. 3, lines 17-21, col. 4, lines 62-65, col., 6, lines 45-62, Tables 3 & 6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine teachings from Shahar into the Chapman'515 invention to include DCD message over downstream channel for identifying downstream channels and differentiating data sent on different tunnels to modem clients.

Regarding claim 15, Chapman'515 teaches a method comprising:

receiving out-of-band (OOB) messages, the OOB messages being outputted over one or more one-way data tunnels provided by an information distribution system where each data tunnel is identified with a network address (Fig. 1, #12-14, #26-28, Fig. 2, col. 2, lines 10-27 and 56-67, col. 3, lines 1-34 and 41-46, wherein a proxy at a cable modem termination system (CMTS) sends DOCSIS packets including out-of-band (OOB) messages to multiple cable clients over an Ethernet tunnel, associated with an IP address; the proxy replaces the Ethernet address in the downstream packet with a well-known Ethernet that is preconfigured into the cable modem (CM) at clients);

scanning downstream channels of the information distribution system with a modem for a well-known Ethernet address associated with the cable client (col. 3, lines 56-64, wherein the cable modem scans the Ethernet data frames received from the CMTS for the well-known Ethernet address associated with the cable client);

determining if one of the scanned channels matches the well-known Ethernet address associated with the cable client (CPE) (col. 3, lines 65-67, wherein If the well-known Ethernet address is detected, the cable modem proceeds with one-way initialization and sends the OOB messages to a set top box (STB)); and

controlling the modem to tune to the tunnels specified in the ID matching and to deliver the OOB messages included in the tuned-to tunnels to the device (Fig. 3, #50, #54, #56, col. 4, lines 26-32 and 45-53, wherein the DOCSIS tuner in the cable modem tunes to a downstream channel and receives OOB messages identified by the well-known Ethernet address for sending to the STB client).

Chapman'515 does not expressly teach that the information distribution system is configured to output downstream channel descriptor (DCD) messages over a network over downstream channels, each DCD message including at least a portion of the network address associated with the one or more tunnels provided by an information distribution system and a listing of tunnel types and a listing of tunnel type identifies for differentiating between different tunnels identified with a same tunnel type.

Shahar teaches that a wireless modem termination system (WMTS, a wireless hub) sends DCD messages to wireless modems (CPEs) over a network over downstream channels; the DCD message defines all downstream channels utilized by the WMTS (wireless hub), the DCD message includes a list of channel type and channel identifiers for downstream channels (Fig, 2, #100-114, col. 3, lines 17-21, col. 4, lines 62-65, col., 6, lines 45-62, Tables 3 & 6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine teachings from Shahar into the Chapman'515 invention to include DCD message over downstream channel for identifying downstream channels and differentiating data sent on different tunnels to modem clients.

Regarding claim 26, Chapman'515 teaches an apparatus comprising:

a modem configured to scan downstream channels of an information distribution system for IP packets attached with well-known Ethernet addresses associated with the cable clients and to output the matched well-known Ethernet address (Fig. 1, #12, #26-28, col. 3, lines 14-21, 27-34 and 56-67, , wherein the cable modem (CM) is pre-

configured to receive and scan the received Ethernet data frames having the well-known Ethernet addresses associated with multiple cable clients; the Ethernet data frames are received at the cable client station from a cable modem termination system (CMTS)); and

a device configured to determine whether the Ethernet address attached to the downstream IP packets matches with a customer premises equipment (CPE) identifier (Fig. 1, #26, Fig. 3, #54, col. 4, line 54 through col. 5, line 10, wherein a set top box (STB) client identifies one of the multiple STB subclients to forward the message) such that the device instructs the modem to continue scanning of the downstream IP packets if the Ethernet address fails to match the well-known Ethernet address and to tune to one or more tunnels identified by the Ethernet address attached to the downstream IP packets if the Ethernet address matches with the well-known Ethernet address (Fig. 3, #50, #54, #56, col. 56-67, col. 3, line 65 through col. 4, line 2, col. 4, lines 26-32 and 45-53, wherein if the well-known Ethernet address is detected, the cable modem proceeds with one-way initialization. DOCSIS tuner in the cable modem tunes to a downstream channel and receives OOB messages identified by the well-known Ethernet address for sending to the STB client. If a packet is detected that does not contain the well-known Ethernet address, the cable modem conducts normal two-way DOCSIS initialization and the cable modem continues to scan for the well-known Ethernet address),

wherein the information distribution system is configured to output over a cable network out-of-band (OOB) messages over the one or more tunnels where each tunnel is identified with a network address (Fig. 1, #12-14, Fig. 2, col. 3, lines 1-34 and 41-46,

wherein a proxy at the CMTS sends DOCSIS packets including out-of-band (OOB) messages to multiple cable clients over an Ethernet tunnel, associated with an IP address).

Chapman'515 does not expressly teach that the information distribution system is configured to output downstream channel descriptor (DCD) messages over a network over downstream channels, wherein each DCD message identifies at least a portion of the network addresses associated with the one or more tunnels provided by the information distribution system and includes a listing of tunnel types and a listing of tunnel type identifies for differentiating between different tunnels identified with a same tunnel type.

Shahar teaches that a wireless modem termination system (WMTS, a wireless hub) sends DCD messages to wireless modems (CPEs) over a network over downstream channels; the DCD message defines all downstream channels utilized by the WMTS (wireless hub), the DCD message includes a list of channel type and channel identifiers for downstream channels (Fig, 2, #100-114, col. 3, lines 17-21, col. 4, lines 62-65, col., 6, lines 45-62, Tables 3 & 6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine teachings from Shahar into the Chapman'515 invention to include DCD message over downstream channel for identifying downstream channels and differentiating data sent on different tunnels to modem clients.

Regarding claims 4, 11 and 22, Chapman'515 further teaches that the network addresses are media access control (MAC) addresses (col. 3, lines 47-50).

Regarding claims 5, 12 and 23, Chapman'515 further teaches that the CPE identifier is an Ethernet tunnel identifier associated with one of the network addresses (col. 3, lines 1-12).

Regarding claims 6, 13 and 24, Chapman'515 further teaches that the tunnel identifier is a conditional access tunnel identifier (col. 4, lines 63-65).

Regarding claims 7, 14 and 25, Chapman'515 further teaches that the conditional access tunnel identifier is associated with a conditional access identification of a vendor of the CPE (col. 2, lines 28-40, col. 3, lines 27-39, col. 4, lines 62-65).

Regarding claim 18, Chapman'515 further teaches outputting the CPE identifier from the device to the modem such that the modem determines whether the scanned channels include the matching well-known Ethernet address (col. 2, lines 56-67, wherein a well-known Ethernet value is preconfigured into cable modem at clients).

Regarding claim 19, Chapman'515 further teaches outputting the CPE identifier from a conditional access unit of the CPE to the modem such that the modem determines whether the scanned channels include the well known Ethernet address (col. 2, lines 27-39, col. 4, lines 62-65).

Regarding claim 20, Chapman'515 further teaches that determining whether the scanned channels include the matching Ethernet address includes outputting the well-known Ethernet address included in the downstream messages of the scanned

channels to the device such that the device determines whether the Ethernet address matches the CPE identifier (col. 2, lines 56-67, col. 5, lines 1-10).

Regarding claim 21, Chapman'515 further teaches that determining whether the scanned channels include the downstream messages attached with a matching Ethernet address includes outputting the Ethernet address included in the downstream messages of the scanned channels to a conditional access unit of the CPE such that the conditional access unit determines whether the Ethernet address matches the CPE identifier (col. 2, lines 56-67, col. 5, lines 1-10).

Regarding claim 27, Chapman'515 further teaches that the device includes a conditional access unit to determine whether the well-known Ethernet address identifier matches with the CPE identifier (col. 2, lines 28-40 and 56-67, col. 4, lines 62-65).

Regarding claim 28, Chapman'515 further teaches that the device communicates with a conditional access unit (col. 2, lines 28-40, col. 4, lines 62-65).

Regarding claim 29, Chapman'515 further teaches that the device comprises a set top box (Fig. 1, #26, Fig. 3, #54, STB).

Regarding claim 30, Chapman'515 further teaches that the modem comprises a cable modem (Fig. 1, #28, Fig. 3, #28, CM).

Regarding claim 31, Chapman'515 further teaches that the information distribution system comprises a cable modem termination system (Fig. 1, #12, CMTS).

3. Claims 2, 3, 9, 10, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chapman'515 in view of Shahar and John T. Chapman (US 7,349,430 B1, hereinafter Chapman'430).

Regarding claims 2, 9 and 16, the combination of Chapman'515 and Shahar teaches the limitations of claims 1, 8 and 15, respectively.

The combination, as applied to claims 1, 8 and 15, fails to specifically teach that the device remains tuned to the one or more tunnels identified in the matching DCD message if an interrupt occurs to the tuned to tunnels.

Chapman'430 further teaches reliability of the cable modem network and fault recovery of the CMTS using redundant line cards so that the transmission on the downstream channels will not be altered if an interrupt occurs to the channel (col. 23, lines 53-59).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further combine teachings from Chapman'430 into the Chapman'515 invention to implement the reliability for the CMTS system so that the STB's will stay tuned to the tuned to tunnels to provide reliable services.

Regarding claims 3, 10 and 17, the combination of Chapman'515 and Shahar and Chapman'430 teaches the limitations of claims 2, 9 and 15, respectively.

Chapman'515 further teaches that the device remains tuned to the one or more tunnels identified in the well-known Ethernet address as long as the matching Ethernet address is being received by the modem (col. 3, lines 56-61).

Response to Arguments

1. Applicant's arguments, filed February 8, 2011, have been considered but they are not persuasive.

Applicant argues that none of the references of record disclose or suggest at least this feature "wherein each DCD message identifies at least a portion of the network addresses associated with the one or more tunnels provided by the information distribution system and includes a listing of tunnel types and a listing of tunnel type identifiers for differentiating between different tunnels identified with a same tunnel type."

In response, the Examiner respectfully disagrees with Applicant's arguments. Chapman'515 teaches that a proxy at the CMTS (the information distribution system) sends DOCSIS packets including out-of-band (OOB) messages to multiple cable clients over an Ethernet tunnel, associated with an IP address (Fig. 1, #12-14, Fig. 2, col. 3, lines 1-34 and 41-46). A DOCSIS tuner in the cable modem tunes to a downstream channel and receives OOB messages identified by the well-known Ethernet address for sending to the STB client (Fig. 3, #50, #54, #56, col. 4, lines 26-32 and 45-53).

Shahar provides what is deficient in Chapman'515 and teaches that a wireless modem termination system (WMTS, a wireless hub) sends DCD messages to wireless modems (CPEs) over a network over downstream channels; the DCD message defines all downstream channels utilized by the WMTS (wireless hub), the DCD message includes a list of channel type and channel identifiers for downstream channels (Fig, 2, #100-114, col. 3, lines 17-21, col. 4, lines 62-65, col., 6, lines 45-62, Tables 3 & 6).

Therefore, in light of the claim language, the combination of Chapman'515 and Shahar meets the claim requirements.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to YONG ZHOU whose telephone number is (571)270-3451. The examiner can normally be reached on Monday - Friday 8:00am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag G. Shah can be reached on 571-272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y. Z./
Examiner, Art Unit 2477
March 5, 2011

/Chirag G Shah/
Supervisory Patent Examiner, Art Unit 2477